



Department of HEALTH, EDUCATION, AND WELFARE • Public Health Service
National Institutes of Health • Bethesda 14, Md.

NATIONAL INSTITUTE OF ARTHRITIS AND METABOLIC DISEASES
NATIONAL CANCER INSTITUTE
NATIONAL INSTITUTE OF DENTAL RESEARCH
NATIONAL HEART INSTITUTE
NATIONAL INSTITUTE OF MENTAL HEALTH
NATIONAL MICROBIOLOGICAL INSTITUTE
NATIONAL INSTITUTE OF NEUROLOGICAL DISEASES AND BLINDNESS
THE CLINICAL CENTER
DIVISION OF RESEARCH GRANTS

December 10, 1956

Dr. Joshua Lederberg
Dept. of Genetics
University of Wisconsin
Madison, Wisconsin

Dear Joshua:

Thank you for your reprints. I can understand most of them better now than I could a year ago because I have recently brought myself up to date on microbial genetics: I am auditing a course of lectures on Elementary and Biochemical Genetics given here by Bruce Ames. Although his lectures are hardly polished, they have clarified a lot of things I was confused about. Also, we have had visiting lectures by Benzer and by Clowes.

I suppose the last four pages of your reprint entitled, "Infection and heredity" are what you referred to in your letter to Bernie Davis regarding my ms on the origin of life. I like your emphasis on the relative nature of self-sufficiency in reproduction, and the statement, "...a self-dependent particle may be thought to improve the chances of its own recurrence, but this probability is measured neither 0 with^{out} nor 1 with~~out~~, the particle." Your use of the word autocatalytic in the last sentence seems to me unfortunate. When we go into the details of SR complexes, I think we shall find that all semblance of autocatalysis disappears--that self-reproduction is a property only of complexes, and that the smaller catalytic units make one another rather than themselves.

My paper, considerably revised since you saw it, will appear in an early issue of the American Naturalist under the title, "Reflexive catalysis: a possible mechanism of molecular duplication in prebiological evolution." I still hope to talk someone into undertaking some experiments that might lead to an evolving system.

With best regards to you and Esther.

rdon
rdon Allen

6
Go